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NEW LIBERIAN LEAFHOPPERS OF THE GENUS
RECILIA (HOMOPTERA: CICADELLIDAE:
DELTOCEPHALINAE)

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The purpose of this paper is to clarify the status of *Recilia* and to make known the included Liberian species.

Recilia was erected by Edwards (1922) with full generic standing. It has been treated subsequently as either a synonym of *Deltocephalus* by Wagner (1939), or as a subgenus of *Deltocephalus* by Ribaut (1952). Except for the fact that the connective and aedeagus are solidly fused together in both *Deltocephalus* and *Recilia*, the two genera have quite dissimilar male genitalia. The most apparent difference is in the basic shape of the connective. In *Deltocephalus* the connective consists of two approximately parallel bars which are tangent basally and fused distally with the aedeagus (Ribaut, 1952, Fig. 603). In *Recilia* the connective consists of a more or less Y-shaped bar with the arms of the "Y" pinched together and the stalk fused with the aedeagus (Fig. 15; Ribaut, 1952, Fig. 609). Other differences are listed below:

Recilia Edwards

1. Gonopore on dorsum of aedeagal shaft and usually very poorly delimited.
2. Extreme apex of aedeagus entire.
3. Lateral margins of male plates usually convex.
4. Usually one cross vein between sectors of forewings.
5. Distribution entirely Old World.

Deltocephalus Burmeister

1. Gonopore at apex of aedeagal shaft and clearly delimited.
2. Extreme apex of aedeagus notched.
3. Lateral margins of male plates usually straight or concave.
4. Always two cross veins between sectors of forewings.
5. Distribution primarily New World.

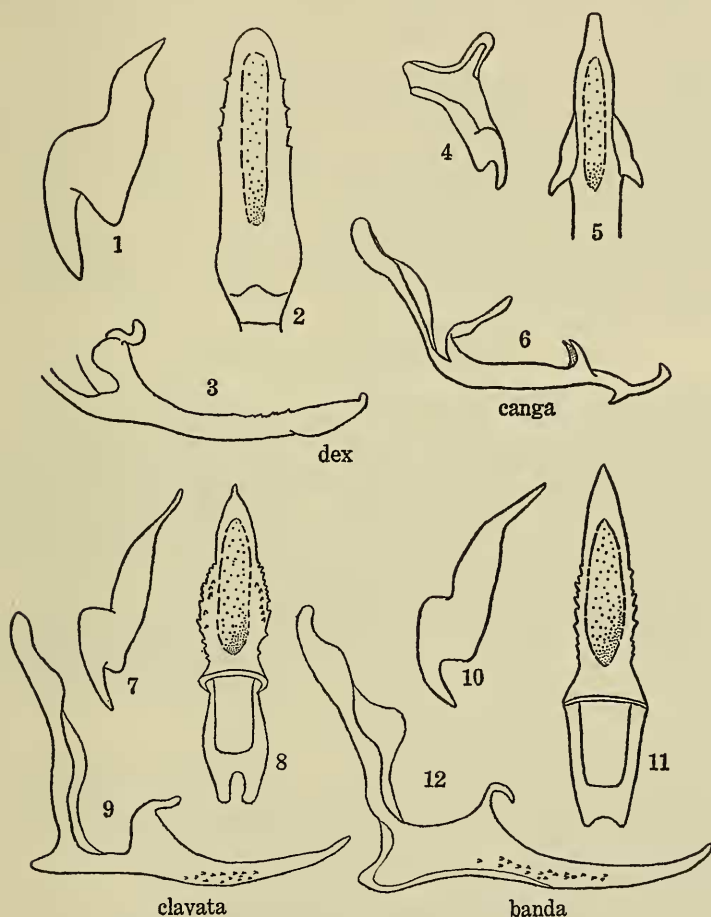
In light of the enumerated differences and current practices in leafhopper taxonomy, *Recilia* is considered as a distinct and valid genus.

The European species of *Recilia* were fully treated by Wagner (1939: 164) and Ribaut (1952: 250). Of the three European species, *coronifer* (Marsh.), *horvathi* (Then.), and *schmidtgeni* (Wagner), two are known from North Africa. Ribaut (1952: 250) reports both *coronifer* and *schmidtgeni* as occurring in Morocco. These two palearctic species are not included in the following key, but the species known from islands adjacent to West Africa are included for the sake of completeness. There is little doubt, however, that many additional species will be added to *Recilia* when the West African fauna becomes better known.

KEY TO LIBERIAN SPECIES OF *Recilia**(Canary and Cape Verde Islands included)*

- 1.—Ground color of head, pronotum, and scutellum black and either unicolorous or with yellow markings 2
 Ground color of head, pronotum, and scutellum stramineous to light brown and either unicolorous or with contrasting darker markings 5
- 2.—Head, pronotum, and scutellum uniformly black; forewings almost entirely milky white *lactipennis*, n. sp.
 Head not uniformly black but with some yellow markings; forewings largely dark and bicolored 3
- 3.—Yellow markings in the form of wide transverse bands on face, crown, pronotum, and scutellum *banda*, n. sp.
 Yellow markings in the form of narrow lines or small spots on face or crown; pronotum and scutellum uniformly black 4
- 4.—Coronal disc with some small yellow angular spots; forewings with two distinct, transverse, solid yellow bands which extend nearly from one costal margin to the other (Lindberg, 1953, Fig. 65) *trifasciata* (Lindberg)
 Coronal disc uniformly black; forewings with one partial, transverse, yellow band limited to claval area and with some yellowish spots in area of claval apices to costal margins *clavata*, n. sp.
- 5.—Aedeagal shaft with a pair of large preapical, dorsal projections (Figs. 6, 17) 6
 Aedeagal shaft without large preapical, dorsal projections (Figs. 3, 13) 7
- 6.—Preapical dorsal projections of aedeagus simple, venter of aedeagal shaft with preapical hook, aedeagal apex not greatly enlarged (Fig. 6) *canga*, n. sp.
 Preapical dorsal projections of aedeagus toothed, venter of aedeagal shaft without preapical hook, aedeagal apex greatly enlarged (Figs. 16–19) *dolabra*, n. sp.
- 7.—Aedeagus in lateral view with a distinct basal spur (Fig. 22) *dispar*, n. sp.
 Aedeagus in lateral view without basal spur 8
- 8.—Aedeagus in lateral view with apex simple (Fig. 13) *mica*, n. sp.
 Aedeagus in lateral view with apex modified 9

- 9.—Aedeagus in lateral view with minute preapical, dorsal teeth, extreme apex sharply upturned and blunt (Fig. 3) *dex*, n. sp.
 Aedeagus in lateral view with minute preapical, dorsal fin, extreme apex gradually upturned and pointed (Lindberg, 1958, Fig. 97c) *hesperidium* (Lindberg)



FIGS. 1-12. 1-3, *Recilia dex*; 1, distal portion of style shown ventrally; 2, dorsal view of aedeagus; 3, lateral view of aedeagus. 4-6, *R. canga*; 4, dorsal view of style; 5, distal portion of aedeagus shown dorsally; 6, lateral view of aedeagus and connective. 7-9, *R. clavata*; 7, distal portion of style shown dorsally; 8, dorsal view of aedeagus; 9, lateral view of aedeagus and connective. 10-12, *R. banda*; 10, distal portion of style shown dorsally; 11, dorsal view of aedeagus; 12, lateral view of aedeagus and connective.

***Recilia lactipennis*, new species**

Length: 3.0–3.5 mm.

Coloration: Venter including legs stramineous (females with extreme apex of ovipositors blackened). Face black with antennae and ocelli pale yellow. Crown, pronotum, and scutellum solid black. Basal portion of forewings adjacent to pronotum and scutellum black, apical portions of forewings slightly embrowned, rest of forewings uniformly milky hyaline.

Male genitalia: Aedeagus in lateral view slender, simple, and apically upturned with a few minute preapical dorso-lateral teeth (Fig. 25). Gonopore opens on dorsum of shaft at a point considerably posterior to apex (Fig. 24). Mesal lobe of style long and slightly undulated (Fig. 23).

Female genitalia: Pregenital sternum with a broad and shallow U-shaped incision on posterior margin.

Types: Holotype ♂, Suakoko, Liberia, 8 July 1952, Carl C. Blickenstaff. USNM Type No. 65916. Allotype ♀ same data except date 24 November 1952. Paratypes, eleven, same data except various dates in 1951 and 1952.

***Recilia banda*, new species**

Length: 3.25–3.50 mm.

Coloration: Venter including legs fuscous. Ground color of head, pronotum, and scutellum black. Face with lower portion broadly yellow and with a yellow band between antennal bases. Face and crown separated by a narrow wavy yellow band. Additional transverse yellow bands on posterior margins of crown, pronotum, and preapically on scutellum. Forewings mainly fuscous touched with yellow at cross veins, some cells clear hyaline, extreme apices hyaline.

Male genitalia: Aedeagus in lateral view slipper-shaped, barely upturned apically, and with a distinct basal heel and a few small lateral teeth (Fig. 12). Aedeagus in dorsal view shallowly but broadly notched basally with gonopore occupying most of distal portal (Fig. 11). Style undistinguished (Fig. 10).

Female genitalia: Pregenital sternum with a broad and shallow U-shaped incision on posterior margin. There is a slight suggestion of a tooth at the center of the incision.

Types: Holotype ♂, Suakoko, Liberia, 2 December 1951, Carl C. Blickenstaff. USNM Type No. 65917. Allotype ♀ same data except date 13 December 1951.

***Recilia clavata*, new species**

Length: 3.0–3.25 mm.

Coloration: Venter including legs largely black or dark fuscous. Distal portion of femur, all of tibia, and tarsus of pro- and mesothoracic legs stramineous. Tibia of metathoracic legs variably touched with stramineous. Face black with mesally broken yellow arcs on upper portion. Ocelli yellow-margined. Crown uniformly black except for ex-

treme anterior margin which is marked with three tiny elongate yellow spots; a fourth minute elongate yellow spot occurs directly behind the central marginal spot. Pronotum and scutellum uniformly black. Forewings black with apex hyaline and some yellow markings. Yellow markings limited to spotting in area of claval apex to costal margin and to clavus. When the wings are at rest, the yellow claval marking appears as a narrow saddle.

Male genitalia: Aedeagus in lateral view similar to *banda* but constricted near base (Fig. 9). Aedeagus in dorsal view expanded in distal one-half with margins irregular, deeply and rather narrowly notched basally, and with gonopore occupying most of distal portion (Fig. 8). Style undistinguished (Fig. 7).

Female genitalia: Pregenital sternum indistinguishable from *banda*.

Types: Holotype ♂, Suakoko, Liberia, 18 November 1952, Carl C. Blickenstaff. USNM Type No. 65918. Allotype ♀ same data except date 25 January 1952. Paratypes, four, same data except various dates in 1951 and 1952.

Recilia trifasciata (Lindberg), new combination

Deltoccephalus trifasciatus Lindberg 1953: 212.

This species and *clavata* are exceedingly close, but the two are readily separated by the easily observed color markings as indicated in the key. The male genital structures of *trifasciata* (Lindberg, 1953, Fig. 53) are quite like *clavata* (Figs. 7-9). However, in dorsal view the aedeagus of *clavata* is broader with less regular margins in the distal one-half than *trifasciata*.

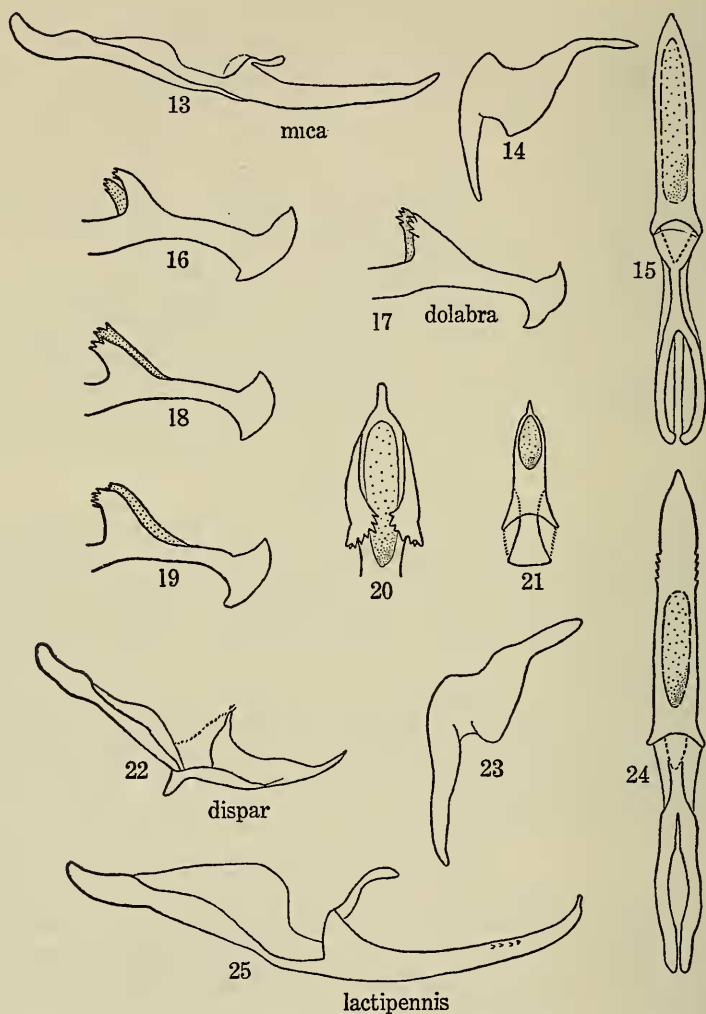
Lindberg described *trifasciata* from the Canary Islands, and it has not been reported elsewhere. Although I have seen no Liberian specimens referable to *trifasciata*, there are two female specimens from Alamata, Ethiopia, in the collection of the U. S. National Museum which appear to be properly placed here.

Recilia canga, new species

Length: 3.3-3.6 mm.

Coloration: Venter including legs sordid stramineous marked irregularly with brown. Face stramineous usually with brown clypeal arcs and some other darkened areas. Crown pale stramineous with six brown apical spots, each lateralmost spot located behind ocellus, additional ill-defined yellow markings on disc. Pronotum sordid stramineous, often darkest anteriorly, and with four weakly delimited yellowish longitudinal stripes. Scutellum sordid stramineous with anterior angles darker. Forewings sordid stramineous with veins white and cells variably infuscated at margins.

Male genitalia: Aedeagus in lateral view slender, upturned distally with a pair of large simple preapical dorsal projections, and a single preapical ventral hook (Fig. 6). Gonopore apparently a poorly delimited



FIGS. 13-25. 13-15, *Recilia mica*; 13, lateral view of aedeagus and connective; 14, distal portion of style shown dorsally; 15, dorsal view of aedeagus and connective. 16-20, *R. dolabra*; 16-19, distal portion of aedeagus in lateral view showing variations; 20, distal portion of aedeagus shown dorsally. 21-22, *R. dispar*; 21, dorsal view of aedeagus; 22, lateral view of aedeagus and connective. 23-25, *R. lactipennis*; 23, distal portion of style shown dorsally; 24, dorsal view of aedeagus and connective; 25, lateral view of aedeagus and connective.

area on distal portion of aedeagal dorsum (Fig. 5). Style undistinguished (Fig. 4).

Female genitalia: Pregenital sternum mesally indented on posterior margin.

Types: Holotype ♂, Suakoko, Liberia, 21 March 1952, Carl C. Blickenstaff. USNM Type No. 65919. Allotype ♀ same data except date 3 May 1952. Paratypes, twelve, same data except various dates in 1952.

***Recilia dolabra*, new species**

Length: 3.0–3.3 mm.

Coloration: Indistinguishable from *canga*.

Male genitalia: Aedeagus in lateral view variable slender, expanded dorsally and ventrally at apex and with a pair of large, toothed, preapical dorsal projections (Figs. 17, holotype, and 16, 18, 19, paratypes). Gonopore a weakly defined area on distal portion of aedeagal dorsum (Fig. 20).

Female genitalia: Female unknown.

Types: Holotype ♂, Suakoko, Liberia, 21 March 1952, Carl C. Blickenstaff. USNM Type No. 65920. Paratypes, three, two with same data as holotype and one same data except date 28 January 1952.

***Recilia dispar*, new species**

Length: 4.0–4.5 mm.

Coloration: In general very much like *canga* with the following exceptions: Face and crown separated by a light yellow stripe which runs between the ocelli. This stripe is bordered ventrally on the face by a twice-arched brown line and dorsally on the crown by a broken brown line. In a dorsal view of the crown, the broken line appears as either two or four brown elongate apical spots depending upon the degree of coalescence. Dorsum with two inconspicuous yellowish longitudinal stripes running from anterior coronal margin across crown, pronotum, and scutellum. Two additional inconspicuous yellowish longitudinal stripes flank the long pair on the pronotum.

Male genitalia: Aedeagus in lateral view comparatively stout but narrowed apically and with a distinct basal spur (Fig. 22). Gonopore opens on dorsum of shaft in distal one-half (Fig. 21). Style similar to *canga*.

Female genitalia: Posterior margin of pregenital sternum broadly but shallowly notched mesally; base of notch transverse or nearly so.

Types: Holotype ♂, Suakoko, Liberia, 5 May 1952, Carl C. Blickenstaff. USNM Type No. 65921. Allotype ♀, same data. Paratypes, three, same data except various dates in 1952.

***Recilia mica*, new species**

Length: 2.7–3.3 mm.

Coloration: Not easily distinguishable from *canga* but usually lighter

with a more yellowish cast. Markings essentially the same in both species.

Male genitalia: Aedeagus in lateral view slender, simple, scarcely upturned apically (Fig. 13). Gonopore ill-defined but occupying most of aedeagal dorsum (Fig. 15). Style with mesal lobe rather slender (Fig. 14).

Female genitalia: Pregenital sternum with posterior margin approximately straight across.

Types: Holotype ♂, Suakoko, Liberia, 28 January 1952, Carl C. Blickenstaff. USNM Type No. 65922. Allotype ♀ same data except date 21 March 1952. Paratypes, twelve, same data except various dates in 1952.

***Recilia dex*, new species**

Length: 3.75–4.0 mm.

Coloration: Essentially a pale-yellow leafhopper sparsely marked with fuscous ventrally. The crown varies from immaculate to marked with six small apical spots. There are usually two highly obscure yellowish longitudinal stripes running from anterior coronal margin across crown, pronotum, and scutellum. Two additional inconspicuous yellowish longitudinal stripes flank the long pair on the pronotum. Each forewing has four small but distinct patches of infuscation which appear as spots.

Male genitalia: Aedeagus in lateral view quite slender with minute preapical dorsal teeth and extreme apex sharply upturned and blunt (Fig. 3). Gonopore opens on dorsum of shaft (Fig. 2). Style not distinguished (Fig. 1).

Female genitalia: Pregenital sternum with posterior margin slightly notched at middle.

Types: Holotype ♂, Suakoko, Liberia, 9 April 1952, Carl C. Blickenstaff. USNM Type No. 65923. Allotype ♀ same data except date 29 March 1952. Paratypes, six, with same data except various dates in 1952.

***Recilia hesperidium* (Lindberg), new combination**

Deltocephalus hesperidium Lindberg 1958: 186.

This species appears rather close to *canga* on the basis of coloration. The male genital structures are, however, unique (Lindberg, 1958, Fig. 97c). Lindberg described *hesperidium* from the Cape Verde Islands, and it has not been reported elsewhere. I have not seen any Liberian material referable to this species.

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